

FORM PTO-1449 U.S. Department of  
Commerce(Rev. 4/92) Patent and Trademark  
Office

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use several sheets if necessary)

ATTY. DOCKET NO.  
501.35478CX20

SERIAL NO.  
10/797012  
Not yet assigned

APPLICANT  
MIWA, et al

FILING DATE  
March 11, 2004

GROUP  
2818

**U.S. PATENT DOCUMENTS**

| EXAMINER INITIAL | DOCUMENT NUMBER |   |   |   |   |   |   |       | DATE           | NAME | CLASS  | SUBCLASS | FILING DATE IF APPROPRIATE |
|------------------|-----------------|---|---|---|---|---|---|-------|----------------|------|--------|----------|----------------------------|
| MV               | 4               | 9 | 6 | 4 | 0 | 7 | 9 | 10/90 | Devin          | 365  | 185.03 |          |                            |
|                  | 5               | 3 | 6 | 5 | 4 | 8 | 6 | 11/94 | Schreck        | 365  | 185.22 |          |                            |
|                  | 5               | 4 | 1 | 2 | 6 | 0 | 1 | 5/95  | Sawada et al   | 365  | 185.03 |          |                            |
|                  | 5               | 8 | 3 | 1 | 9 | 0 | 0 | 11/98 | Miyamoto       | 365  | 185.03 |          |                            |
| MR               | 5               | 7 | 4 | 5 | 4 | 0 | 9 | 4/98  | Wong et al     | 365  | 185.03 |          |                            |
|                  | 5               | 5 | 5 | 5 | 2 | 0 | 4 | 9/96  | Endoh et al    | 365  | 189.01 |          |                            |
|                  | 5               | 1 | 5 | 1 | 3 | 8 | 7 | 9/92  | Brady et al    | 437  | 191    | 4/30/90  |                            |
|                  | 5               | 0 | 8 | 4 | 4 | 1 | 7 | 1/92  | Joshi et al    | 437  | 192    | 3/13/89  |                            |
| MF               | 5               | 0 | 5 | 9 | 5 | 5 | 4 | 10/91 | Spinner et al  | 437  | 193    | 6/23/89  |                            |
|                  | 5               | 1 | 7 | 2 | 3 | 3 | 8 | 12/92 | Mehrotra et al | 365  | 185.03 |          |                            |
|                  | 5               | 1 | 3 | 8 | 5 | 7 | 6 | 8/92  | Madurawe       | 365  | 185.3  |          |                            |
| MF               | 5               | 4 | 8 | 7 | 0 | 3 | 6 | 1/96  | Akaogi et al   | 365  | 185.23 |          |                            |

**FOREIGN PATENT DOCUMENTS**

|    |   | DOCUMENT NUMBER |   |   |   |   |   |      |       | DATE  | COUNTRY | CLASS | SUBCLASS | ABSTRACT |    |    |    |
|----|---|-----------------|---|---|---|---|---|------|-------|-------|---------|-------|----------|----------|----|----|----|
|    |   |                 |   |   |   |   |   |      |       |       |         |       |          | YES      | NO |    |    |
| MF | 5 | 9               | 1 | 2 | 1 | 6 | 9 | 6    | 7/84  | Japan |         |       |          |          | XX |    |    |
|    | 4 | 2               | 3 | 8 | 1 | 9 | 6 | 8/92 | Japan |       |         |       |          |          |    | XX |    |
| MF | 4 | 5               | 7 | 2 | 9 | 4 |   |      | 2/92  | Japan |         |       |          |          |    |    | XX |

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

|    |   |
|----|---|
| HK | Digest of Technical Papers, ATP 2.1: A 3.3V 128Mb Multi-level NAND Flash Memory for Mass Storage Applications, T. Jung, et al., ISSCC96/Session 2/Flash Memory/Paper TP 2.1, 1996 IEEE International Solid State Circuits Conf. |
| MF | Betty Prince, "Semiconductor Memories", 1983, Wisely, 2 <sup>nd</sup> Edition, pp. 620-621.   |

|          |         |                 |         |
|----------|---------|-----------------|---------|
| EXAMINER | M. TRAN | DATE CONSIDERED | 7/26/04 |
|----------|---------|-----------------|---------|

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|------------------|-----------------|-------|------------------|-------|----------|----------------------------|
| MF               | 5 6 7 7 8 6 8   | 10/97 | Takahashi, et al | 365   | 185      |                            |
|                  | 5 7 6 8 1 9 3   | 6/98  | Lee, et al       | 365   | 185.25   |                            |
|                  | 5 7 5 7 6 9 9   | 5/98  | Takeshima, et al | 365   | 185.24   |                            |
|                  | 5 7 9 6 6 5 2   | 8/98  | Takeshima, et al | 365   | 185.03   |                            |
| MF               | 5 7 5 4 4 6 9   | 5/98  | Hung, et al      | 365   | 185.03   |                            |
|                  | 5 7 4 8 5 3 3   | 5/98  | Dunlap, et al    | 365   | 185.19   |                            |
|                  | 5 7 5 4 4 7 5   | 5/98  | Bill, et al      | 365   | 185.25   |                            |
|                  | 5 6 8 7 1 1 4   | 11/97 | Khan             | 365   | 185.03   |                            |
|                  | 5 7 6 8 1 8 8   | 6/98  | Park, et al      | 365   | 185.03   |                            |
| MF               | 5 4 4 0 5 0 5   | 8/95  | Fazio, et al     | 365   | 45       |                            |
|                  | 5 4 5 0 3 6 3   | 9/95  | Christopherson   | 365   | 205      |                            |
|                  | 5 1 6 3 0 2 1   | 11/92 | Mehrotra, et al  | 365   | 185      |                            |
|                  | 5 7 6 8 1 9 1   | 6/98  | Choi, et al      | 365   | 185.22   |                            |
|                  | 5 5 6 6 1 2 5   | 10/96 | Fazio            | 365   | 45       |                            |
|                  | 5 2 0 0 9 2 0   | 4/93  | Norman, et al    | 365   | 185      |                            |
|                  | 5 6 7 5 5 3 7   | 10/97 | Bill, et al      | 365   | 185.22   |                            |
| MF               | 4 8 6 0 2 5 8   | 8/89  | Fruhauf, et al   | 365   | 194      |                            |

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|------------------|-----------------|---|---|---|---|---|---|-------|----------------|-------|----------|----------------------------|
| MF               | 5               | 9 | 1 | 5 | 1 | 0 | 5 | 6/99  | Farmwald et al | 710   | 305      |                            |
|                  | 6               | 0 | 3 | 8 | 1 | 6 | 5 | 3/00  | Miwa           | 365   | 185.03   |                            |
|                  | 4               | 4 | 3 | 5 | 7 | 8 | 6 | 3/84  | Tickle         | 365   | 185      |                            |
| MF               | 5               | 6 | 9 | 4 | 3 | 5 | 7 | 12/97 | Mori           | 365   | 185.03   |                            |

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|------------------|-----------------|---|---|---|---|---|---|-------|---------|-------|-----------|----------|----|
|                  |                 |   |   |   |   |   |   |       |         |       |           | YES      |    |
| MF               | 6               | 2 | 6 | 4 | 9 | 3 |   | 2/87  | Japan   | —     | —         | XX       |    |
|                  | 6               | 2 | 3 | 4 | 3 | 9 | 8 | 2/87  | Japan   | —     | —         | XX       |    |
|                  | 6               | 2 | 2 | 5 | 7 | 6 | 9 | 9     | 11/87   | Japan | —         | —        | XX |
|                  | 6               | 2 | 2 | 9 | 8 | 9 | 9 | 9     | 12/87   | Japan | —         | —        | XX |
|                  | 6               | 3 | 2 | 7 | 6 | 7 | 9 | 1     | 11/88   | Japan | —         | —        | XX |
| MF               | 2               | 4 | 0 | 1 | 9 | 8 |   | 2/90  | Japan   | —     | —         | XX       |    |
|                  | 2               | 2 | 6 | 0 | 2 | 9 | 8 | 10/90 | Japan   | —     | —         | XX       |    |
|                  | 3               | 2 | 3 | 7 | 6 | 9 | 2 | 10/91 | Japan   | —     | —         | XX       |    |
|                  | 4               | 5 | 7 | 2 | 9 | 4 |   | 2/92  | Japan   | —     | —         | XX       |    |
|                  | 4               | 1 | 8 | 4 | 7 | 9 | 4 | 7/92  | Japan   | —     | —         | XX       |    |
| MF               | 4               | 2 | 3 | 8 | 1 | 9 | 6 | 8/92  | Japan   | —     | —         | XX       |    |
|                  | 0               | 6 | 1 | 3 | 1 | 8 | 8 | 1     | 5/94    | Japan | —         | —        | XX |
|                  | 0               | 6 | 1 | 9 | 5 | 9 | 8 | 7     | 7/94    | Japan | —         | —        | XX |
| MF               | 0               | 6 | 2 | 6 | 7 | 2 | 8 | 5     | 9/94    | Japan | —         | —        | XX |

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|------------------|-----------------|---|---|---|---|---|---|-------|---------------|------|--------|----------|----------------------------|
| MV               | 5               | 3 | 2 | 7 | 3 | 9 | 0 | 7/94  | Takasugi      | 365  | 230    |          |                            |
|                  | 5               | 4 | 7 | 3 | 5 | 7 | 0 | 12/95 | Sato et al    | 365  | 221    |          |                            |
|                  | 6               | 0 | 1 | 1 | 8 | 8 | 0 | 1/00  | Tani et al    | 382  | 312    |          |                            |
|                  | 6               | 3 | 6 | 6 | 4 | 9 | 5 | 4/02  | Miwa et al    | 365  | 185.03 |          |                            |
|                  | 6               | 4 | 5 | 9 | 6 | 1 | 4 | 10/02 | Miwa et al    | 365  | 185.03 |          |                            |
| MV               | 6               | 0 | 4 | 4 | 0 | 3 | 1 | 3/00  | Iadanza et al | 365  | 230.03 |          |                            |

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|----|-----------------|---|---|---|---|---|---|-------|-------|---------|-------|----------|-------------|----|
|    |                 |   |   |   |   |   |   |       |       |         |       |          | YES      NO |    |
| MV | 1               | 2 | 7 | 3 | 2 | 9 | 4 | 11/89 | Japan |         |       |          |             | XX |
|    | 0               | 7 | 0 | 5 | 7 | 4 | 8 | 4     | 3/95  | Japan   |       |          |             | XX |
|    | 0               | 2 | 1 | 5 | 4 | 9 | 7 |       | Japan |         |       |          |             | X  |
|    | 0               | 6 | 3 | 0 | 9 | 8 | 9 | 0     | 11/94 | Japan   |       |          |             | XX |
|    | 0               | 1 | 2 | 3 | 8 | 4 | 2 |       | 9/79  | Japan   |       |          |             |    |
| MV | 1               | 1 | 3 | 4 | 7 | 9 | 3 | 5/89  | Japan |         |       |          |             | X  |
|    | 5               | 2 | 1 | 0 | 9 | 9 | 1 | 8/93  | Japan |         |       |          |             | XX |
|    | 6               | 2 | 5 | 1 | 5 | 9 | 1 | 9/94  | Japan |         |       |          |             | X  |
|    | 7               | 9 | 3 | 9 | 7 | 9 |   | 4/95  | Japan |         |       |          |             | XX |
| MV | 2               | 0 | 4 | 0 | 1 | 9 | 8 | 2/90  | Japan |         |       |          |             | XX |

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| <b>FORM PTO-1449</b> U.S. Department of<br>Commerce (Rev. 4/92) Patent and Trademark<br>Office | <b>ATTY. DOCKET NO.</b><br><br><b>501.35478CX20</b> | <b>SERIAL NO.</b><br><del>101797012</del><br><b>Not yet assigned</b> |                             |
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b>                                       |   | <b>APPLICANT</b><br><b>H. MIWA, et al</b>                            |                             |
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